LED Shoe Clips

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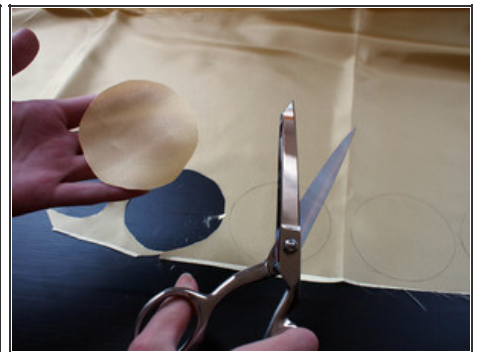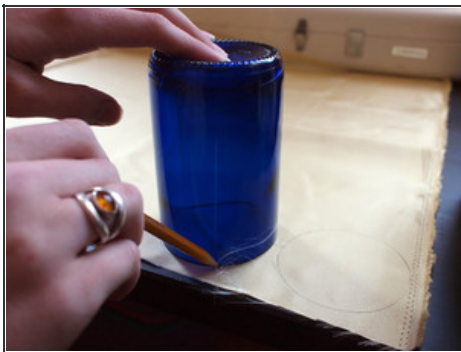| 🔧 TOOLS:	⚙ PARTS:
Lighter (1)	Fabric (1)
Scissors (1)	Felt (1)
sewing needle and thread (1)	LED Sewing Kit (2)

SUMMARY

Twinkle toes! Make LED ruffles to customize your shoes in this CRAFT tutorial and video. This easy soft circuit project can get you started in wearable electronics and uses the LED Sewing Kit available in the Maker Shed.
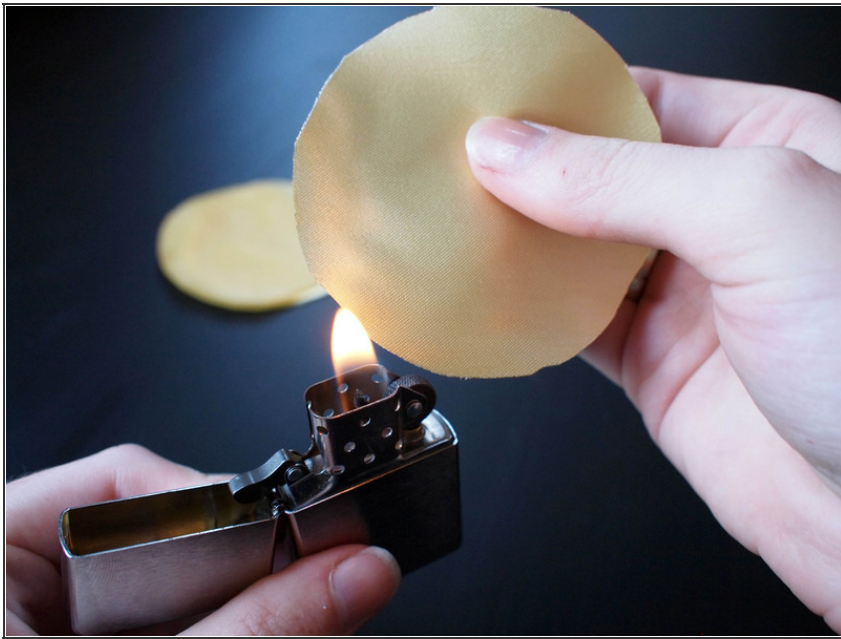
Step 1 — LED Shoe Clips

- Gather materials and tools: you'll need a pair of LED sewing kits you can get from the Maker Shed, as well as some standard sewing supplies and a pair of paper clips.

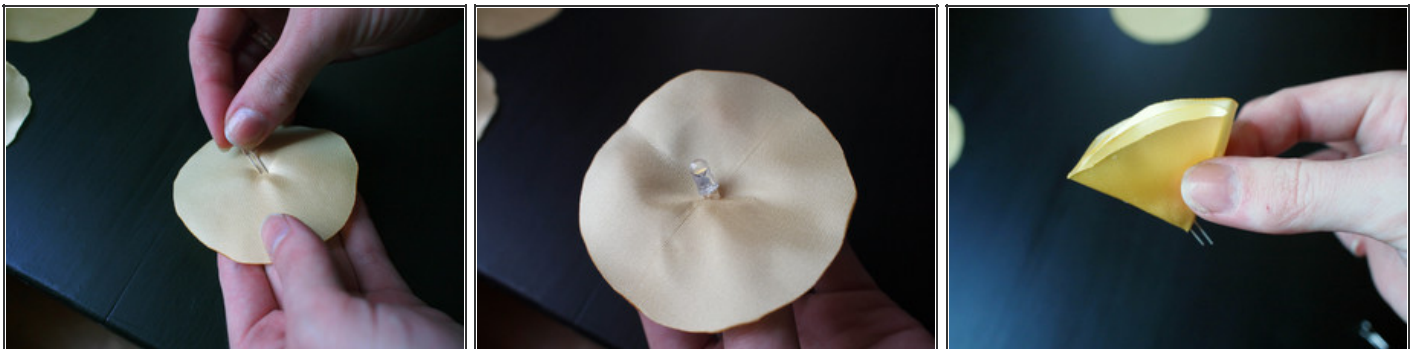- I was trying to match these to my yellow dress.

Step 2

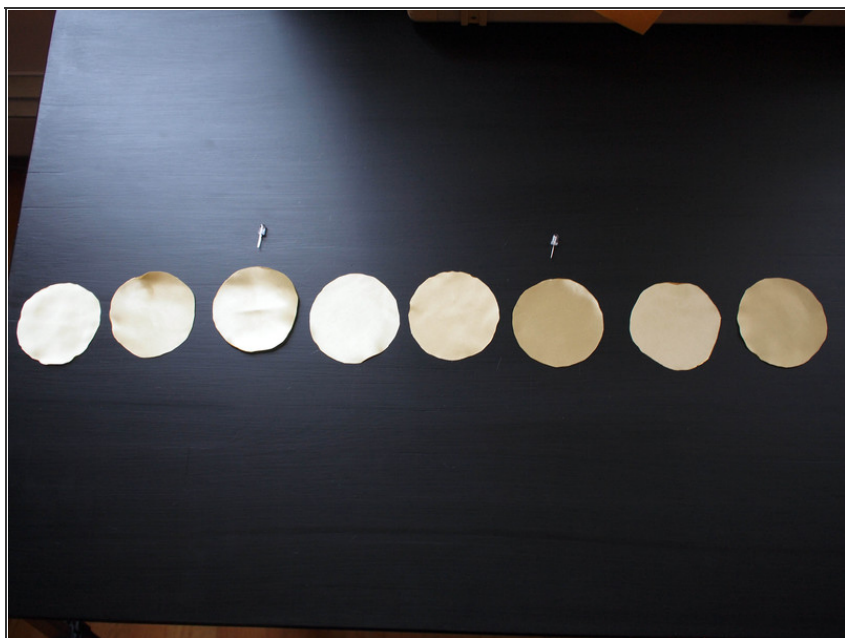- Trace and cut 16 fabric circles, eight for each clip.

Step 3

- Gently singe the edges to prevent fraying.

Step 4

- Pierce LEDs through the centers of two circles.
- Fold the circles in half twice to form a wedge.
- The wedges are then stacked up to form the ruffle.
- I want the light to radiate from inside the ruffle, so I'm piercing the centers of two circles with the LEDs.

Step 5

Fold remaining circles into wedges and compile in a stack with the illuminated wedges evenly distributed in the ruffle stack.

Step 6

Be sure both longer positive leads are facing the same side of the stack, and stitch the fabric in place with plain thread.

Step 7

- Splay the leads out and coil them up with pliers to make them easier to sew.

- I like to make the positive leads square coils and the negative leads round coils so I can tell them apart.
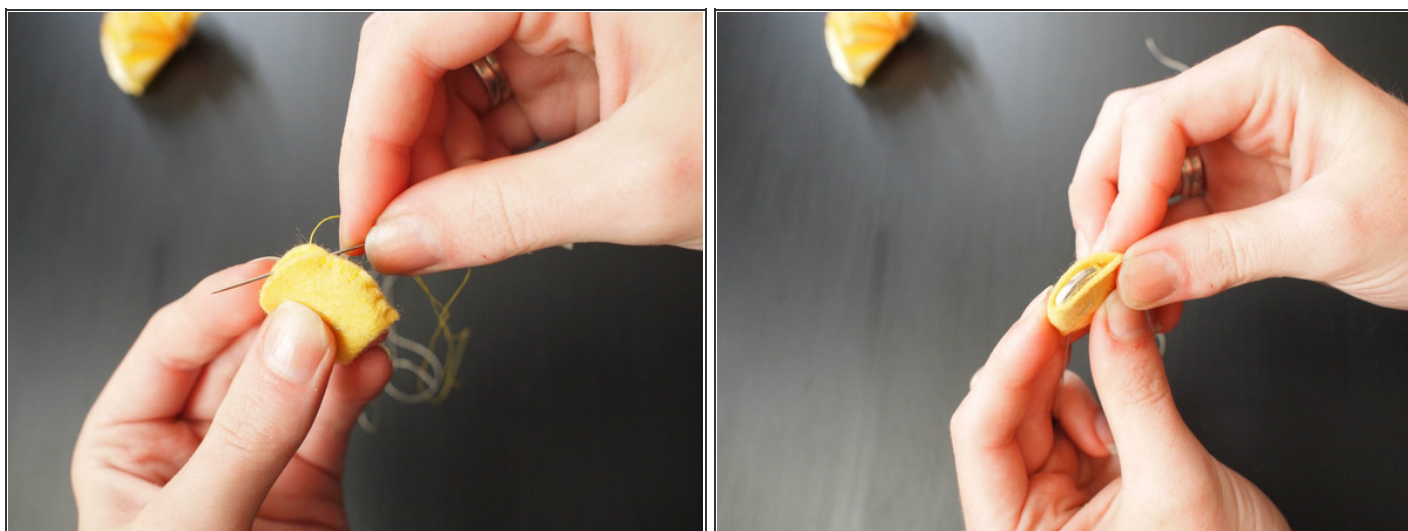
Step 8

- Start the soft battery holder with a piece of felt shaped to double over the coincell battery.

Step 9

- Using two pieces of conductive thread, sew a pad at the center of each felt circle with leads hidden in the felt sprouting from one outer side.
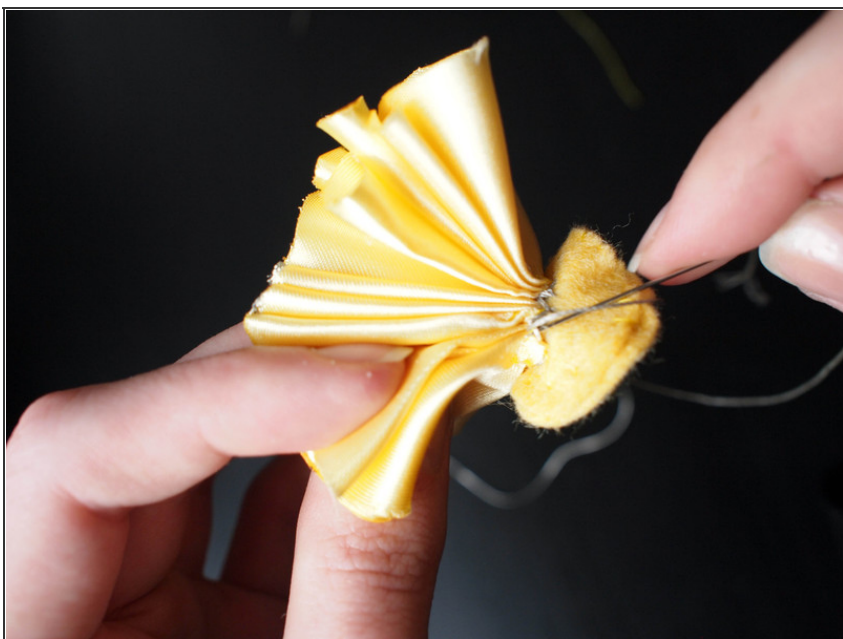
Step 10

- Sew the battery holder shut around the edge with regular thread.
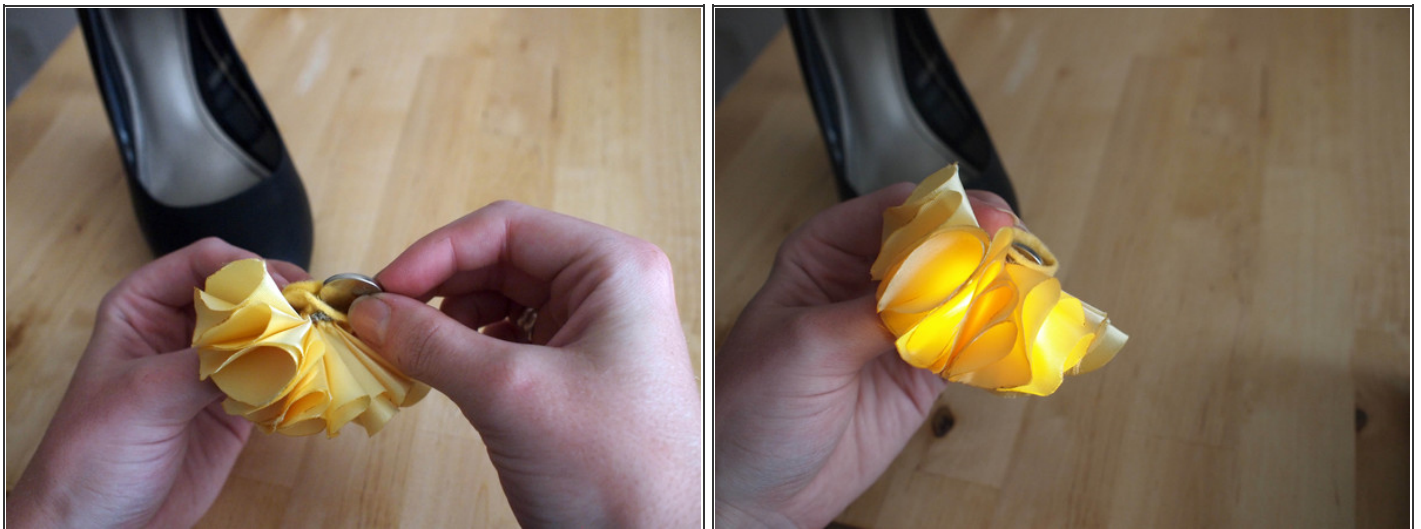- Leave enough space to snugly insert/remove the battery.

Step 11

- Stitch the ruffle assembly to the top of the battery holder with standard thread.

Step 12

- Stitch the remaining tails of conductive thread to connect with their respective polarity leads of the LEDs.
- Stitch the positive thread to both positive LED leads, and stitch the negative thread to the negative leads. Don't let them touch!

Step 13

- Insert the battery. If it doesn't light up immediately, try flipping the battery the other way.

- If it still doesn't light up, whip out your multimeter and check for shorts!

Step 14

- Stick a paperclip in the back of the battery holder and clip onto your shoe!

Step 15

- You're finished! Repeat for the other shoe.

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